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Canada

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D212-664-101TRN
Job Sheet 204294



Part No: D212-664-101TRN

Job Qty: 1 pcs

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/5/19

Job Tracking No:

Due Date: 12/27/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV E IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 removed Polish EC verified by: DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Mori Seiki TL-40 - 1	1 pcs		12/27/19	1.00	2.38	Mori Seiki TL-40 - 1		BS 12/4/2019
110	QC 2	1 pcs		12/27/19	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		
							QC 2 - 66		BS 2019/12/2
							QC 2 - 64		

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					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
120	Mori Seiki TL-40 - 1 - B4B	1	12/27/19	1.00 2.38	Mori Seiki TL-40 - 1 - B4B	E3 2019/12/17
	pcs					
130	QC 2	1	12/27/19	0.00 0.00	QC 2 - 1	
	pcs				QC 2 - 12	
					QC 2 - 14	
					QC 2 - 17	
					QC 2 - 19	
					QC 2 - 2	
					QC 2 - 20	
					QC 2 - 22	
					QC 2 - 23	
					QC 2 - 25	
					QC 2 - 32	
					QC 2 - 33	
					QC 2 - 35	
					QC 2 - 39	
					QC 2 - 4	
					QC 2 - 40	
					QC 2 - 44	
					QC 2 - 45	
					QC 2 - 48	
					QC 2 - 49	
					QC 2 - 50	
					QC 2 - 51	
					QC 2 - 52	
					QC 2 - 57	
					QC 2 - 62	
					QC 2 - 63	
					QC 2 - 8	DAS 66 2019/12/17 9-89
					QC 2 - 66	
					QC 2 - 64	
					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
140	QC 8	1	12/27/19	0.00 0.00	QC 8 - 12	
	pcs				QC 8 - 14	
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	

				QC 8 - 67	DAS 47 9-89 19-12-19
				QC 8 - 1 (A)	
				QC 8 - 47	
				QC 8 - 40	
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
				QC 8 - 61	
145 Crosstubes - 2 - B4B	1 pcs	12/27/19	0.00 0.50	Crosstubes - 1 - B4B	BS 12/30/19
				Crosstubes - 2 - B4B	
				Crosstubes - 3 - B4B	
				Crosstubes - 4 - B4B	
150 Handfinish - 1-1 Chemical-B4B	1 pcs	12/27/19	0.00 1.00	Handfinish - 1 - 1 - B4B	SA JAN 02 2020
				Handfinish - 1 - 2 - B4B	
				Handfinish - 1 - 3 - B4B	
				Handfinish - 1 - 4 - B4B	
				Handfinish - 1 - 5 - B4B	
				Handfinish - 1 - 6 - B4B	
				Handfinish - 1 - 7 - B4B	
				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
160 QC 7	1 pcs	12/27/19	0.00 0.00	QC 7 - 10	
				QC 7 - 13	
				QC 7 - 14	
				QC 7 - 15	
				QC 7 - 17	
				QC 7 - 18	
				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	

				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 60	
				QC 7 - 9	
				QC 7 - 68	
				QC 7 - 50	
				QC 7 - 67	
				QC 7 - 40	
				QC 7 - 24	
				QC 7 - 43	
				QC 7 - 61	
				QC 7 - 81	DAS 76 9-89
				QC 7 - 76	
				QC 7 - 79	
170 Packaging 3-1 - Stock - B4B	1 pcs	12/27/19	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	BS 1/6/2020
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	DAS 21 9-89
180 QC 21 - SA	1 pcs	12/27/19	0.00 0.00	QC 21 - SA - 21	
				QC 21 - SA - 70	
				QC 21 - SA - 53	

Part Op 100 - (Mori Seiki CNC Lathe Large) 1- Fill tube with sand & install plugs 212-141 on both ends as per Folio FA113 3- Turn

Descriptions: first taper section on both side as per folio FA113
110 - (QC2- Inspect parts off machine FAI/FAIB) (QC2- Inspect parts off machine FAI/FAIB)
120 - (Mori Seiki CNC Lathe Large) 1- Turn second taper on both side 4- Scribe part # and batch # using vibrating stylus on the cuff as per Dwg D212-664-141
130 - (QC2- Inspect parts off machine FAI/FAIB)
140 - (QC8- Inspect parts - second check)
145 - (Crosstubes) GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.
150 - 1- Handfinish X-TUBE INSIDE AND OUT
160 - (QC7-Inspect Chemical Conversion Coat)
170 - (Identify as per dwg & Stock Location: _____ LOCATION : LG014
180 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6005-128	Crosstube Material	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	E139915

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6005-128	1	8	0

Part Specifications

Specifications could not be found.

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Container No: S239486



Part: D212-664-101TRN

Job No: 204294

Serial No/Batch: S239486

Revision: E

Inspector:

Exp Date:

Instructions:

Date: 12/11/19

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DART AEROSPACE LTD	Work Order:	264799
Description: Crosstube Assembly (205/212/412 High Fwd)	Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: E		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.207	✓		cnc-08	
	R0.063	+/-0.010	.063	✓		AG	
	2.740	+0.005/-0.000	2.740	✓		cnc-04	
	5.097	+/-0.030	5.097	✓		cnc-08	
	2.304	+0.005/-0.000	2.308	✓		cnc-04	
	2.340	+0.005/-0.000	2.341	✓			
	2.398	+0.005/-0.000	2.406		✓		OK JTW
	2.448	+0.005/-0.000	2.453	✓			
	2.498	+0.005/-0.000	2.503	✓			
	2.549	+0.005/-0.000	2.547		✓		OK JTW
	2.599	+0.005/-0.000	2.600	✓			
	2.671	+0.005/-0.000	2.676	✓			
	2.701	+0.005/-0.000	2.706	✓			
SIDE B	0.200	+/-0.010	.205	✓		cnc-08	
	R0.063	+/-0.010	.063	✓		AG	
	2.740	+0.005/-0.000	2.740	✓		cnc-04	
	5.097	+/-0.030	5.097	✓		cnc-08	
	2.304	+0.005/-0.000	2.308	✓		cnc-04	
	2.340	+0.005/-0.000	2.345	✓			
	2.398	+0.005/-0.000	2.403	✓			
	2.448	+0.005/-0.000	2.453	✓			
	2.498	+0.005/-0.000	2.503	✓			
	2.549	+0.005/-0.000	2.553	✓			
	2.599	+0.005/-0.000	2.604	✓			
	2.671	+0.005/-0.000	2.676	✓			
	2.701	+0.005/-0.000	2.706	✓			
	126.514	+/-0.020	126.51	✓		Tape	

Item	Qty -141	Qty -141B	Qty -141F	Part Number	Description
1	X			D212-664-141	CROSS TUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X		D212-664-141B	CROSS TUBE ASSEMBLY (214 HIGH FWD)
3			X	D212-664-141F	CROSS TUBE ASSEMBLY (205/212/412 HIGH FWD) (ANODIZED)
4	1	1	1	D6006-128	CROSS TUBE
5	2		2	D2883-1	SUPPORT
6	4	4	4	D3665-063-460	RUBBER CUSHION
7		2	2	D6017-1	SUPPORT
8	4	4	4	M521620-25	CLAMP (OR M521620-26)
9	AR	AR	AR	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128.
FINISHED LENGTH = 126.5140-020.
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
c) MASK INSIDE OF CROSS TUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
d) PAINT OUTSIDE PER DART QSI 005 4.2
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT
FINISH -141F: a) ANODIZE PER MIL-A-8625, TYPE II, CLASS 1
b) ALCOHNE (DO NOT ETCH) PER QSI 005 4.1, 2
c) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
d) MASK INSIDE OF CROSS TUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
e) PAINT OUTSIDE PER DART QSI 005 4.2
f) REMOVE MASKING AND APPLY MATTE CLEAR COAT
NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO CONTAMINATE OR DAMAGE FINISHED SURFACES.
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
7) WEIGHT: D212-664-141/141B/141F = 33.8 lbs
8) PART IS SYMMETRICAL ABOUT CENTERLINE.
9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
MACHINING
10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
BENDING
11) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 0% (BASED ON O.D.) ON REMAINING TUBE.
12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSS TUBE PER QSI 038.
ASSEMBLY
13) TO INSTALL D2883-1 / D6017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSS TUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
14) INSTALL M521620-25 CLAMPS (OR -26) WITH D3665-063-460 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSS TUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSS TUBE.
15) TORQUE CLAMPS 90 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.

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WORK ORDER
NO. 24424415
19-12-01

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2014-05-26
JMD

E	ADD -141F. D6017-1 WAS D2883-1 (-141B). PROSEAL WAS MAGNABOND. NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 2.5% CRUSH, NOTE 15: ADD 72HR CURE AND RETORQUE FOR PROSEAL. ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (B7-2, B7-3). BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-3). INCOMP. DED D-1/2-3	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-3); REMOVED REF & ADD TOLERANCES (ZN B4-3, C8-3, C8-3); RELOCATED PLUG IN PER PAR D6-046 (ZN A4-3); ADDED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 3	RF	09.02.30
C	REMOVE .001 ABRASION STRIP; ADD MAGNABOND 6396 CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATIBILITY WITH BHT1AA SKID TUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MPG APPR.	D212-664-141		REV. E
APPROVED			SHEET 1 OF 5
DE APPR.			SCALE
DATE	14.04.01		NTB

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

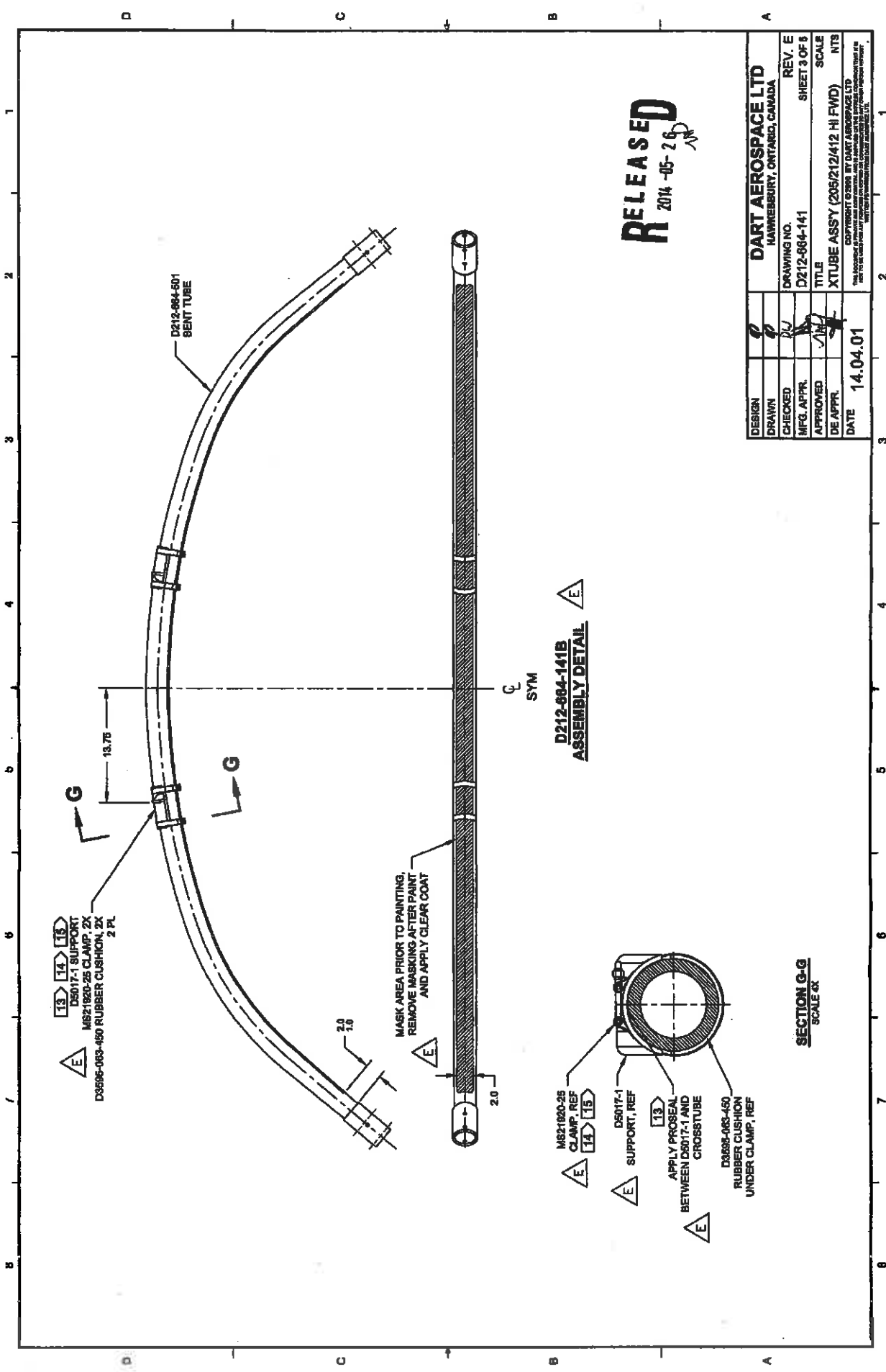
DRAWING NO.

D212-664-141

SHEET 1 OF 5

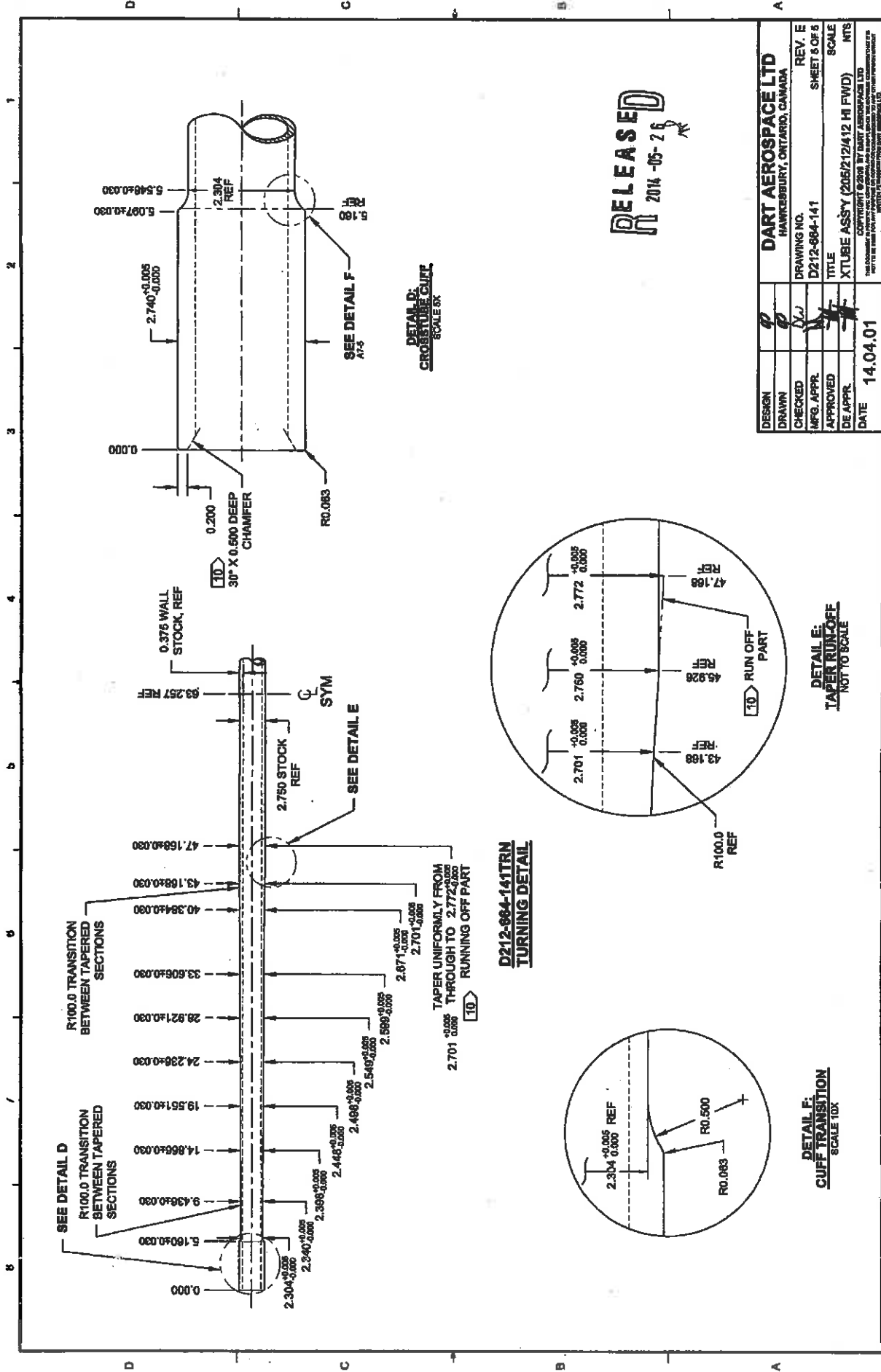
SCALE

NTB



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2014-05-26 *MD*

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DESIGN	0	DART AEROSPACE LTD	REV. E
DRAWN	0	HAWKESBURY, ONTARIO, CANADA	
CHECKED	0	DRAWING NO.	SHEET 8 OF 8
INFO. APPR.	0	D212-884-141	
APPROVED	0	TITLE	SCALE
DE APPR.	0	XTUBE ASSY (205/212/412 HI FWD)	NTS
DATE	14.04.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD	

NCR No. _____		Route update only													
Job: _____		DISPOSITION					DEPARTMENT/PROCESS								
Part No. _____		Rework ☐ Scrap ☐ Use-as-is ☐					Cross tube ☐ Small Fab ☐ Finishing ☐ Skid-tube ☐ Machining ☐ Large Fab ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐								
Date :	Sequence #:	QTY Affected :		MRB (QS1042)											
Description Work Order Deviation				Disposition											
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Other/Details: _____ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐											
												Completed By			
												Lead hand / Supervisor			
												QC / QA Coordinator			